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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,125	02/27/2004	Larry Hillyer	M4065.0239/P239-B	4682
24998	7590	07/12/2005	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			SCHILLINGER, LAURA M	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	

2813

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/787,125	Applicant(s) HILLYER ET AL.	
	Examiner Candice Y. Chan	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/31/2000</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 45-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Dow ('356).

45. (Previously Presented) A semiconductor device comprising: an insulating layer (Fig. 5b and Col. 3, lines 6-7); an ammonia-cleaned, etched opening in said insulating layer (Fig. 5b; Col. 3, lines 7-8; and Col. 9, line 28); and a conductor in said ammonia cleaned, etched opening (Col. 3, lines 20-21).
46. (Previously Presented) An integrated circuit comprising: an ammonia-cleaned, etch residue-free High Aspect Ratio opening provided in an insulating layer (Fig. 5b; Col. 3, lines 7-8; Col. 9, line 28; and Col. 4, lines 10-11), said opening being formed over a polysilicon region (Fig. 5b and Col. 3, lines 9-10); and a conductor within said opening, said conductor being electrically connected with said polysilicon region (Fig. 5b and Col. 3, lines 5, 20-21).
47. (Previously Presented) An integrated circuit as in claim 46 further comprising a silicide layer between said conductor and said polysilicon region (Fig. 7 and Col. 9, lines 52-53).

Art Unit: 2813

48. (Original) An integrated circuit as in claim 46, wherein said integrated circuit is a memory circuit (Col. 10, lines 30-38).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dow ('356) as applied to Claims 46 and 47 above, and further in view of Torek, et al. ('951). Dow teaches the limitations of Claims 46 and 47, however fails to teach further providing the interface area between said conductor and polysilicon region is free of oxygen contamination as recited in Claim 49. Torek further teaches that oxide residue can form when silicon dioxide is etched (Col. 1, lines 44-46). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dow to remove oxide residue as taught by Torek because as Torek teaches, oxide residue from etching can interfere with photolithography and cause contamination.

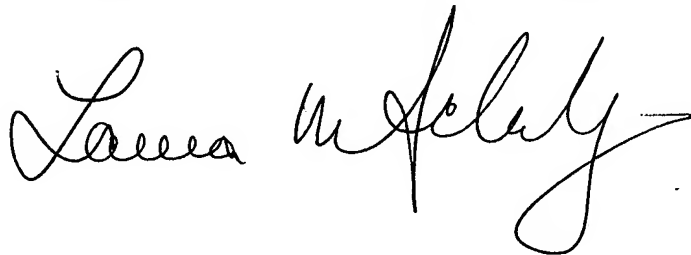
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candice Y. Chan whose telephone number is (571) 272-1697. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6/22/05

A handwritten signature in black ink, appearing to read "Laura M. Kelly". The signature is fluid and cursive, with a long horizontal stroke at the end.